The Honorable Ricardo S. Martinez

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

Estate of MYLO HARVEY, and DIANE HENRY, as the personal representative of the Estate, Plaintiffs, vs. KEITH JONES, BENJAMIN KALICH, CLYDE TURNER, JOHN DOES ONE THROUGH TEN, and CITY OF EVERETT, Defendants.	NO. CV05-1170RSM PLAINTIFFS' DISCLOSURE OF EXPERT WITNESS RICHARD CUMMINS, M.D.

Pursuant to FRCP 26(a)(2), plaintiffs hereby give notice that they intend to call the following expert witness at trial who may be used at trial to present evidence under Rule 702, 703 or 705 of the Federal Rules of Evidence: RICHARD CUMMINS, M.D.

A copy of Dr. Cummins's report, dated May 2, 2006 is attached to this disclosure as Exhibit A.

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A copy of Dr. Cummins's bibliography and curriculum vitae is attached to this disclosure as Exhibit B. A list of Dr. Cummins's publications is listed on page 14 of his bibliography and curriculum vitae.

A list of all cases in which Dr. Cummins has testified as an expert at trial within the last four years is attached as Exhibit C.

A copy of Dr. Cummins's fee schedule is attached to this disclosure as Exhibit D.

Plaintiffs anticipate that Dr. Cummins will give the expert opinions as provided in his report.

These opinions are based on the documents that have been reviewed by Dr. Cummins as indicated in his report. He may form additional opinions after reviewing further materials obtained by plaintiffs in discovery. If he develops further opinions, plaintiffs will supplement this disclosure.

Dr. Cummins will receive compensation in accordance with the provisions of his fee schedule.

DATED this 3 day of May, 2006.

CARNEY BADLEY SPELLMAN, P.S.

By _____

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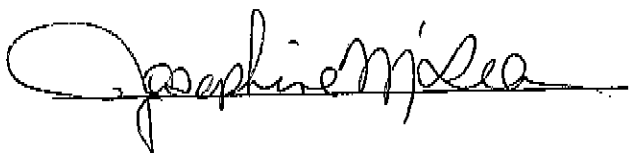
CERTIFICATE OF SERVICE

I hereby certify that on 5/3/06, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system which will send notification of such filing to Robert Christie at bob@christielawgroup.com.



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May 2, 2006

RE: Milo Harvey (deceased) v. City of Everett Police Department

Plaintiff attorneys asked me to review the records, statements, reports and depositions surrounding the events and emergency medical care of Milo Harvey on November 11, 2002. Following this review, plaintiff attorneys requested that I render an opinion in regards to the emergency actions of the Everett Police Department, the Emergency Medical Services responders, and the professional staff at the Providence Medical Center Emergency Department; and the probable effects that care on Mr. Harvey's ultimate death.

For my review I have had available the following documents:

1.	Dispatch log regarding Case No: DD 02-23724;
2.	Transcript of SnoPac 9-1-1 Tape;
3.	Everett Police Incident Report, Case No. 02-23724;
4.	Evidence Report;
5.	Scene photos following the incident;
6.	Written statement by Officer Keith Jones dated November 18, 2002;
7.	Supplemental written statement by Officer Keith Jones dated November 21, 2002;
8.	Written statement by Officer Benjamin Kalich dated November 18, 2002;
9.	Supplemental written statement by Officer Benjamin Kalich;
10.	Written report of Officer Jamie French dated November 12, 2002;
11.	Follow up report written by Officer French dated November 17, 2002;
12.	Written statement by Officer Clyde Turner dated November 18, 2002;
13.	Supplemental written statement by Officer Clyde Turner;
14.	Follow up report by Officer J. DeRouse dated November 11, 2002;
15.	Follow up report prepared by Officer U. Hegge dated November 11, 2002;
16.	Follow up report prepared by Officer P. Hegge dated November 21, 2002;
17.	Follow up reports prepared by Detective Jimmy Phillips;
18.	Written report by Officer Suzanne Eviston;
19.	Written report by Sergeant R. Johns dated November 17, 2002;
20.	Written report by Sergeant Britton dated November 17, 2002;
21.	Written report by Detective Gary Fortin dated November 13, 2002;
22.	Written statement by Jeremy Thompson dated November 11, 2002
23.	Written statement by Christy Thompson dated November 11, 2002;
24.	Written statement by Sukhjivan Takhar dated November 11, 2002;
25.	Written statement by Stephanie Wehmeyer dated November 11, 2002;
26.	Written statement of Tina Richman dated November 11, 2002;
27.	Written statement of Gustovao Quiros-Mora dated November 12, 2002 in Spanish;
28.	Written statement of Honey Nightingale dated January 14, 2003;
29.	Written statement of Peter McFall dated November 19, 2002;

EXHIBIT A

30.	Written statement of Matthew Park dated November 19, 2002;
31.	Written statement of David Moses dated November 19, 2002;
32.	Written statement of Charles Hallas, III dated November 19, 2002;
33.	Written statement of Richard Hanson dated November 19, 2002;
34.	Written statement of Paul Gagnon dated November 19, 2002;
35.	Written statement of Julie Connell dated November 11, 2002;
36.	Written statement of Justin Connell dated November 11, 2002;
37.	Written statement of Carin Connell dated November 11, 2002;
38.	Written statement of Eric Coston dated November 19, 2002;
39.	Written statement of Emily Amos dated November 11, 2002;
40.	Affidavit of Emily Amos dated January 3, 2003;
41.	Written statement of William Armstrong dated November 19, 2002;
42.	Written statement of Daniel McLeod dated November 11, 2002;
43.	WSP Crime Laboratory Report; Washington State Toxicology reports
44.	Everett Fire Department medical records;
45.	Providence Medical Center medical records;
46.	Snohomish Co Medical Examiner Autopsy Report dated February 11, 2003 with neuropathological report;
47.	Autopsy Photos;
48.	Certificate of Death for Mylo L. Harvey;
49.	DVD from the surveillance video showing Mylo Harvey in the Tesoro's gas station
50.	Deposition transcript of Keith Jones;
51.	Deposition transcript of Clyde Turner including DVD;
52.	Deposition transcript of Matthew R. Park;
53.	Dr. Werner Spitz's Opinion dated March 13, 2006;
54.	Declaration of Emily Amos;
55.	Declaration of Christy Thompson; and
56.	Declaration of Jeremy Thompson.

REVIEW APPROACH

After familiarization with the case, and based on the above documents I attempted to determine the individual events and interval timing that comprised the following three timelines:

1. **Harvey Timeline**: the timeline of Milo Harvey, starting when he first provoked calls to 911
2. **Everett PD timeline**: the timeline of the Everett Police Department, starting when they were alerted to Mr. Harvey's actions and behavior
3. **EMS Timeline**: the timeline of the responders of the Emergency Medical Services system, starting when the 911 operator first dispatched a response.

Harvey Timeline. For Mr. Harvey the following events were critical:

1. His first physical contact with the officers of the EPD (7:24 pm)
2. Various actions taken by the officers up until the final "takedown" such as the use of pepper spray, blows from the police baton, holds and restrictive actions;
3. The "takedown" itself, that is the point at which he is finally handcuffed and hobbled and restricted in his movements.
4. When he stops moving and then appears unconscious, stops breathing, and becomes pulseless (7:34 + 2 pm?)

5. When the EPD officers note that he is unconscious, not breathing, and pulseless (7:36 pm)
6. When the various BLS and ACLS interventions occur (7:40 pm to 7:51 pm)
7. Restoration of spontaneous heartbeat (7:51 pm)

Everett PD Timeline: for the Everett Police Officers, the following events were critical:

1. they are dispatched to Milo Harvey's location (7:19 pm)
2. they have Milo Harvey in sight and begin to engage him (7:21 pm)
3. they make their first physical contact with him (7:24 pm)
4. they take various actions to subdue Milo Harvey, including, but not limited to: verbal commands; pepper spray; body blocks; hand strikes; wrist and arm locks; martial art takedown moves; tripping; kicking; pain-based pressure compliance maneuvers; blunt trauma using police batons to the legs, body and head; restrictive body presses by the police on Mr. Harevey in both supine and prone positions; head and neck "locks"; head and neck hyperflexion against an air-tight barrier (police body armor); hand-cuffing and ankle-cuffing; oral airway blockage to prevent spitting;
5. recognition of the moment of unconsciousness, cessation of breathing and lack of a pulse (7:34 + 2? pm) ;
6. alerting of the EMS personnel that Mr. Harvey had become unconscious, unresponsive, had stopped breathing and had no pulse (7:36 pm)
7. transfer of Mr. Harvey's care to the EMS personnel in a condition that allows initiation of resuscitation protocols (in the EMS vehicles, with hand- and ankle-cuffs removed) (7:40 pm)

EMS Timeline: for the EMS personnel, the following events were critical:

1. Arrival at the scene (7:30 pm = arrival of first unit)
2. Arrival at Mr. Harvey's side (7:37 pm)
3. Recognition that Mr. Harvey was no longer responsive, not breathing and without a pulse (7:37 pm?)
4. Initiation of CPR actions (7:40 pm)
5. Identification of the rhythm of arrest (7:47 pm = asystole)
6. Performance of actions and interventions of ACLS protocols (7:47 pm = 1st ACLS drugs)
7. Initiation of positive pressure ventilation (endotracheal intubation) (7:48 pm)
8. Restoration of spontaneous heartbeat (7:51 pm)
9. Restoration of spontaneous respirations (he never regains spontaneous respirations)
10. Transfer of care to the Emergency Department personnel at the Providence Hospital (8:00 pm = arrival in ED)

OBSERVATIONS AND OPINIONS

To the best of my knowledge my review and my preparation of the above timelines support the following observations and opinions, which I state with a reasonable degree of medical certainty, on a more probable than not basis:

1. Harvey Milo experiences more than 10 minutes of extreme, agitated exertion in his running struggle with the police. His ability to repeatedly escape from the police, and to resist all attempts to subdue him, required that he function at a maximum level of human exertion. At the moment when he could no longer breath (see below) and subsequently experienced cardiac arrest, Mr. Harvey would have had an extremely high blood pressure and extremely rapid heart rate. The need of his brain for oxygenated blood would have been many times normal. The tremendous amount of muscle activity would have produced a large amount of lactic acid that needed rapid removal by an active cardiac circulation.

2. The police delivered multiple doses of pepper spray, producing the lacrimation and respiratory discharge described dramatically by several of the officers. On a more likely than not basis this pepper spray reaction produced significant airway obstruction. This made the eventual mechanical restriction to breathing even more damaging.

3. Despite comments that only one, perhaps two glancing head blows from the police baton occurred, the autopsy proved otherwise. While the observed amount of intracranial bleeding was not the direct cause of Mr. Harvey's death it led to a significant portion of the acute brain swelling, edema and dysfunction. It was interesting to note how often the involved EMS and ED personnel, and care-givers after admission mentioned "head blows" or "head trauma" as the major cause of the cardiac arrest.

4. Given the circumstances noted above (points 1-3) Mr. Harvey was going to be particularly vulnerable to the moment in time when the force of the officers pushing down on his chest was greater than the force of his efforts to breath (his *inspiratory effort*). This was a classic example of a phenomenon with a variety of labels: *positional asphyxia, restraint asphyxia, mechanical asphyxia, respiratory asphyxia, compressive respiratory insufficiency*. The pathophysiology is simple to understand.
   - Humans inhale, or "take a breath", via the coordinated contractions of the intercostal muscles, the thoracic wall muscles, the diaphragm, and the shoulder girdle muscle. A breath in (inspiration) requires that these muscles expand the volume of the chest, producing a partial vacuum, with subsequent air flow in.
   - If significant resistance to this chest expansion occurs, an insufficient amount of air will stream into the lungs. The blood that is pumped through the lungs will not become adequately oxygenated, and a state of *hypoxia*, or low oxygen, will ensue. With complete lack of oxygen a state of *anoxia* is present.
   - If the restriction to chest expansion continues, and the state of hypoxia lengthens, problems begin. The heart continues to beat, but it is pumping poorly oxygenated blood. As noted below the brain is exquisitely sensitive to reduced oxygen and it shuts off (unconsciousness), in a state of reversible brain damage.

- Though less than the brain, the heart is also sensitive to low or absent oxygen. Animal studies of asphyxiation show that the unoxygenated heart goes through a sequence of marked elevation of blood pressure and heart rate. This is followed shortly by a steady slowing of the heart rate over several minutes. The heart then stops completely in what is called *asystole*. Asystole was the heart condition Mr. Harvey displayed when the medics were first able to monitor his cardiac rhythm.
- Researchers have identified and reported many causes of that initial resistance to chest expansion (and subsequent death). in nursing home patients, these include entanglement in bed clothing and sheets, or falling under side rails, "blowing a faint" in the teenage search for new highs; burial under sand, snow or dirt; tipping over soft drink dispensers; attempting sex with an obese partner on top; auto-erotic techniques gone awry; and a rich variety of additional causes.
- Of relevance to Mr. Harvey's demise is the large number of deaths associated with the "hog-tie" method of restraint of criminal suspects (ankles bound; wrists bound behind back; subject lying facedown; ankles bound to wrists). So many deaths have occurred by this restraint method that almost all law enforcement agencies prohibit its use. Though Mr. Harvey was not restrained in the full "hog-tie" approach, much of the pathophysiology of that method applies.
- Any face-down (prone) restraint position leads to a reduced amount of chest expansion when compared to the normal upright position. This occurs because the subject has to lift the weight of his or her own upper body with each breath. If you add weight progressively to the back of someone in the face-down position, there will follow a progressive decrease in the amount of chest expansion. This same reduction occurs, though to a lesser extent, in the face-up (supine) position. Big, strong individuals can generate significantly forceful chest expansions. Inevitably, however, a subject will become fatigued and then exhausted, and the volume of their chest expansions will rapidly decrease.
- This rate of subject fatigue and exhaustion will increase significantly if a large amount of weight, or increasing amounts of weight, are pressed down on the subject's chest.
- Multiple documents confirm that a large amount of weight was added to Mr. Harvey's chest in the person of Officer Clyde Turner. This occurred towards the end of the prolonged and exhausting efforts to restrain and subdue him. Despite Mr. Harvey's display of almost super-human strength, it was only a matter of time before fatigue and exhaustion *("he appears to be tiring")* sets in, and he loses his ability to expand his chest against officer Turner's unrelenting weight.
- Compounding the effects of the mechanical chest restriction by Officer Turner's straddle of Mr. Harvey were Turner's efforts to avoid being bitten by Mr. Harvey. *"I tried to keep his...chin planted in his (Harvey's—ROC) chest, so he couldn't open his mouth to bite me."* Such a hold would unquestionably produce marked hyperflexion of the neck, and occlusion forces against the mandible. This maneuver would have led to further airway obstruction. Hyperflexion of the neck is a frequent element in many reports of restriction or positional asphyxia.

5. The interval between the start of Mr. Harvey's cardiac arrest (7:34 to 7:36 pm) and the start of CPR by the EMS personnel at 7:40 pm, was 4 to 6 minutes. This was an interval of total absence of blood supply to the brain. In brain resuscitation literature, this is referred to as

"the period of global no-flow". This is a period of maximum rate of brain damage. Given the metabolic circumstances noted in point 1 above, one could estimate that the rate of brain damage would have been several magnitudes greater.

6. The interval between the start of CPR at 7:40 pm, and the restoration of spontaneous circulation at 7:51 pm, was 11 minutes. From the standpoint of irreversible brain damage this is an eternity. Even though the chest compressions of CPR produce some blood flow to the brain it is extremely limited flow, perhaps only 10 to 15% of normal. The transition from reversible to irreversible brain damage is occurring throughout this "CPR interval". In addition, most of the limited blood that circulates during CPR is unoxygenated. The ventilations that occur during CPR, even though supplemented by oxygen from the EMS units, do little in the way of adding oxygen to the blood. These ventilations only become significantly effective when delivered through an endotracheal tube. Since intubation did not occur until 7:48 pm, fully 8 minutes of the 11 minutes of CPR was a period of poor oxygenation. The effect was to increase the amount of irreversible brain damage.

7. Even though the EMS personnel managed to "restart the heart" some 16-18 minutes after the cardiac arrest, they did not manage to "restart the brain." This phenomenon—that it is easier to restart the heart than to restart the brain—is well-known in emergency medical and resuscitation research. The brain is exquisitely sensitive to any interruption in the flow of oxygenated blood. Witness how in just a few seconds someone becomes unconscious ("faints") when their blood pressure drops or their heart rate slows. This lapse into unconsciousness is, in a sense, a form of acute, reversible brain dysfunction.

8. A significant amount of Mr. Harvey's brain was irreversibly damaged (ie dead) by the time he arrived in the emergency department. Witness the almost continuous state of seizures (status epilepticus) that started soon after his arrival, and the fact that he never regained spontaneous respirations. Note that even within a few hours of admission (5am on Nov 12) the organ procurement team (*Life Center Northwest)* had been notified, and was at his bedside, to evaluate Mr. Harvey as an organ donor. The massive amount of brain swelling and herniation noted at autopsy was simply a inevitable sequelae of the original brain death. This is yet more evidence of the devastating effects of initial restriction of breathing and subsequent cardiac arrest.

CONCLUSION

In my opinion, the actions taken by the Everett Police Department comprise an excessive use of force. The actions of multiple pepper spray deployments; repeated, prolonged and unsuccessful attempts to subdue and restrain Mr. Harvey, combined with repeated traumatic blows to his body and head, weakened and exhausted Mr. Harvey. The final deployment of the both supine and prone positions, coupled with the extreme compressive force on Mr. Harvey's chest of an officer's full weight, produced restraint / positional, hypoxic / anoxic cardiac arrest. Delays in recognizing the arrest and in transferring his care to the waiting EMS personnel produced a prolonged 4 minute period of no oxygenated blood to the brain. This was followed by an 11

minute period of markedly reduced flow of unoxygenated blood to the brain. This led directly, in a causal chain, to severe, irreversible, anoxic encephalopathy and subsequent death.

Respectfully submitted,

Richard O. Cummins, MD, MPH, MSc
Specialty Certification by the American Board of Internal Medicine and the American Board of Emergency Medicine

Jacobs, Cheryl

From: McLean, Josephine
Sent: Tuesday, May 02, 2006 5:18 PM
To: Jacobs, Cheryl
Subject: Wekema deps

C.J.

When you get a chance, perhaps you can help me locate David Coons, last known address - 3917 Corliss Ave. N. Seattle.

Thanks

jm

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BIOGRAPHY and CURRICULUM VITAE

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EXHIBIT B

Richard O. Cummins, MD, MPH, MSc
Professor of Medicine
University of Washington Medical Center
and School of Medicine

Biographic Sketch

Richard O. Cummins, MD, MPH, MSc

Professor of Medicine
University of Washington

Richard O. Cummins grew up in eastern North Carolina. He attended the University of North Carolina in Chapel Hill, as a John Motley Morehead Scholar. He attended medical school at Case Western Reserve in Cleveland; and received post-graduate training in Medicine and Pediatrics at the University of Virginia in Charlottesville.

For two years he served in the U.S. Public Health Service in a medically indigent community in rural Virginia.

He was awarded a Robert Wood Johnson Fellowship to the University of Washington School of Public Health where he obtained graduate training in Epidemiology, and a Master's in Public Health Degree. He was awarded a Milbank Memorial Fund Fellowship to study for two years at the University of London in England (obtaining a Master's of Science degree); and at the Royal Free Hospital.

He joined the faculty of the Department of Medicine at the University of Washington in 1981, and was promoted to the rank of full Professor in 1993. As a member of the Division of Emergency Medicine he works as an attending physician in the UWMC Emergency Department, providing clinical care, supervising medical students and residents in training, as well as providing direct patient care.

Dr. Cummins is Board-certified in Internal Medicine and Emergency Medicine.

He has served as the co-director of the Center for Evaluation of Emergency Medical Services, and as the Medical Director of the Early Defibrillation Programs in the Seattle-King County EMS Division.

Dr. Cummins' research themes have been in epidemiology and treatment of sudden cardiac death including long-term survival, resuscitation, defibrillation, transcutaneous pacing, and the pharmacology of resuscitation. He has written and published more than 150 articles and book chapters on emergency cardiac care and related topics.

Dr. Cummins has served as the Chair of the National ACLS Subcommittee; the National ECC Committee; and co-chair of the International Liaison Committee on Resuscitation (ILCOR). He has also served as a Senior Science Editor within the AHA's ECC programs. In this position Dr. Cummins has helped develop ACLS guidelines, instructor manuals, provider manuals, handbooks, and textbooks. He has been the Editor for 3 editions of the ACLS Textbook; 2 editions of the ACLS Instructors Manual; and 6 editions of the ECC Handbook. He originated the ACLS for Experienced Providers Course and wrote the Instructors Manual and Toolkit.

He lives in Seattle, WA with his wife Jenny with whom he has observed, but not influenced, the growth and development of daughters Caroline and Elisabeth, son David, and black lab "Beau". Only one of these five individuals has ever paid the slightest attention to him (the one with the tennis ball in his mouth).❑

Professional Biography
Richard O. Cummins, MD, MPH, MSc

EDUCATION

Richard O. Cummins, MD grew up in eastern North Carolina. In high school he was awarded the *John Motley Morehead Scholarship* to attend the **University of North Carolina in Chapel Hill** from which he graduated *Phi Beta Kappa* in 1968. He attended medical school at **Case Western Reserve University Medical School** in Cleveland, Ohio (1968-72); graduating with Alpha Omega Alpha honors in 1972. Post-graduate, residency training in Medicine and Pediatrics took place at the **University of Virginia** in Charlottesville (1972-73; 75-77). For two years he served in the **U. S. Public Health Service** in a medically indigent community in rural Virginia (1973-5). He was awarded a **Robert Wood Johnson Fellowship** to the **University of Washington School of Public Health** where he obtained graduate training in Epidemiology (obtaining a Master's in Public Health Degree; 1977-79)). He then competed for and was awarded one of five national **Milbank Memorial Fund Fellowships** to study at the **University of London in England** (obtaining a Master's of Science degree; 1979-81).

ACADEMIC APPOINTMENTS

He joined the faculty as an Instructor in the **Department of Medicine** at the **University of Washington in 1981.** By 1993 he rose to the rank of **full Professor** in the **Department of Medicine.** He is a member of the Division of Emergency Medicine at UWMC, and a member of the faculty of the Madigan Army Medical Center-University of Washington Affiliated Emergency Medicine Residency Program. He now works half-time clinically as an Emergency Medicine physician, in the UWMC Emergency Department, providing clinical care, supervising medical students and residents in training, as well as providing direct patient care himself.

BOARD CERTIFICATION

Dr. Cummins is **Board-certified** in the specialties of **Internal Medicine (1977)** and **Emergency Medicine.(1996)**

RESEARCH ACTIVITIES AND THEMES

He is the co-director of a research-focused collaboration between the University of Washington and the Seattle-King County Public Health Department, called the **Center for Evaluation of Emergency Medical Services.** As a **community service** Dr. Cummins serves as the **Medical Director of the Early Defibrillation Programs** in the Seattle-King County EMS Division. Dr. Cummins' research themes have been multiple: the epidemiology and treatment of sudden cardiac death; long-term survival and quality of life; techniques of initial resuscitation, early defibrillation, transcutaneous pacing, and the pharmacology of resuscitation. He was one of the first researchers in the United States to evaluate the new technology of automated external defibrillation starting in the early 1980's. He has consistently been a proponent of AEDs as the key link in a community's chain of survival. He has written and published more than **130** articles and book chapters on emergency cardiac care and related topics.

NATIONAL AND INTERNATIONAL LEADERSHIP

Dr. Cummins has risen to national and international prominence through volunteer work with the American Heart Association. He has played a number of leadership roles with the National AHA,

including the following: **Chairman, National ACLS Subcommittee; Vice-Chair, National ECC Committee; Chair, National ECC Committee**; founder and co-chair of the **International Liaison Committee on Resuscitation (ILCOR)**. In these positions, Dr. Cummins has served as the lead Editor of the 1992, 1997 and 2003 Editions of the **Textbook of ACLS**, and for 5 editions of the **Handbook of ECC and CPR.** Under his editorship there have been more copies of the **Textbook of ACLS** distributed to readers than any other medical textbook in the World. As the co-leader of ILCOR, Dr. Cummins initiated the development of a series of "Utstein Style" guidelines on out-of-hospital, pediatric, and in-hospital resuscitation, resulting in more than 12 publications.

AMERICAN HEART ASSOCIATION: SENIOR SCIENCE EDITOR (December, 1977 to July, 2002)

From December, 1997 to July, 2002, Dr. Cummins served as **Senior Science Co-Editor** of the AHA's ECC programs (with Mary Fran Hazinski, RN as Senior Science co-editor). He received funding from the AHA to support a 50% commitment to this work. In this position Dr. Cummins had overall responsibility for the development of all of the AHA's scientific publications on CPR and ECC. On August 22, 2000 the **2000 Guidelines on CPR and ECC** was published as an entire issue of **CIRCULATION** with Dr. Cummins as the senior co-editor. This was followed by these books edited by Dr. Cummins: **2002 ACLS Provider Manual, 2002 ACLS Instructors Manual, 2000 and 2003 Handbooks of ECC and CPR; 2000 ACLS Manual for Experienced Providers,** the **2000 ACLS-Experienced Providers Instructor Manual,** and, published in May, 2003 the 2-volume **2003 ACLS Textbook: ACLS—the Reference Textbook: volume 1-ACLS Principles and Practice; and volume 2: ACLS for Experienced Providers**. He is co-author of **ACLS Scenarios : core concepts for Case-based teaching (1996)**, and co-author of **1998 Heartsaver-AED Textbook.**

HONORS AND AWARDS

In 1994 Dr. Cummins received the *National Award of Meritorious Service* from the AHA, as well as the *Time, Feeling and Focus Award.* In 1995 he received the *National AHA Volunteer of the Year* Award. In September, 2002 he was presented with the Hans Dahll Award from the Citizen CPR Foundation for significant and outstanding contributions to research and education in ECC and CPR. In January, 2005 he was honored at the American Heart Association International Guidelines Conference as a "Giant of Resuscitation", an award given every five years for a career of outstanding contributions to the field of resuscitation. (Citation from Award Ceremony on following page.)

2005 HONOREES

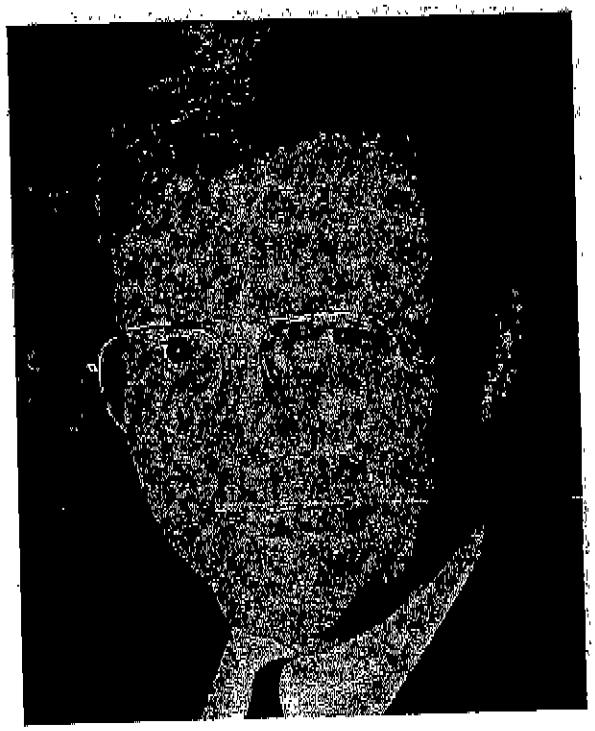
Richard O. Cummins, MD, MPH, MSc

Richard Cummins is a giant in all aspects of resuscitation science, including clinical practice, research, international consensus development, teaching, writing, and editing. He has advocated AHA and international evidence-based research in resuscitation science, creating the framework and templates that we are using today for resuscitation evidence evaluation. For many years he promoted international collaboration to evaluate CPR and ECC science and develop common treatment recommendations. He and Dr Douglas Chamberlain founded the initial International Liaison Committee on Resuscitation (ILCOR), and they co-chaired this organization for 10 years. These efforts culminated in the publication of the international *Guidelines 2000 for CPR and ECC*, which he co-edited.

Dr Cummins has had a profound effect on the way we treat sudden cardiac arrest. He first defined the "Chain of Survival." Many of his more than 130 peer-reviewed publications are cited throughout the International Resuscitation Guidelines. He identified the need for uniform reporting guidelines for outcomes of CPR. He helped organize the first Utstein conference to define guidelines for adult out-of-hospital arrest and edited the pediatric Utstein guidelines, the Utstein guidelines for reporting in-hospital arrest, and the educational Utstein guidelines. He was an early advocate of prehospital AED use by trained rescuers. Dr Cummins proposed many of the AHA recommendations to promote AED CPR programs. He drafted the final version of the federal Cardiac Arrest Survival Act that was ultimately signed into law, and helped write the recommendations used in many state AED regulations and legislation.

Dr Cummins has been instrumental in the development of ECC, especially ACLS teaching materials. In the early 1990s he created the first *ECC Handbook* and transformed the ACLS course to case-based instruction. The 1994 *ACLS Textbook*, which he edited, became the largest selling English language medical textbook. He originated the course ACLS for Experienced Providers and edited the *ACLS Provider Manual* and the *ACLS Reference Textbook*. Dr Cummins is an unselfish mentor who nurtures colleagues and gives them credit for joint projects. He is a superb editor and a wonderful role model and colleague. During tight deadlines he often provides the encouraging message or humorous card that buoys team spirit. He is a compassionate and skilled clinician. It is no surprise that he has won awards as a clinical instructor at the University of Washington. He has taught many of us more than we can say.

"I learned from the giants who came before me. During my residency at the University of Virginia, I spent time as the 'ambulance doctor' going out on EMS calls. This system had been inspired by one of the first 'Giants of Resuscitation,' Dr Frank Pantridge. Dr Mickey Eisenberg, another ECC giant, offered me a chance to work with him on a project to evaluate something called an automated external defibrillator. Then yet another giant, Sir Douglas Chamberlain, helped me find an airline in Great Britain on which we established the world's first airline defibrillation program."



ORIGINAL CONTRIBUTIONS

Dr. Cummins, along with a number of fellow experts for each topic, has been given credit for making unique and original contributions to the field of resuscitation. Perhaps more accurately he has frequently added to others' original ideas by a more concise and defined conceptualization, and by articulating in publications extensions of the original ideas. This applies to the following concepts and principles:

- the principle of early defibrillation by first responding healthcare providers,
- adding to documentation of the value of early CPR and early defibrillation,
- original formulation of the Chain of Survival Concept,
- articulating the principle of public access defibrillation,
- adding to documentation of the accuracy and effectiveness of automated external defibrillators,
- adding to documentation of the reality of sudden cardiac death during commercial air travel and generation of the idea of using AEDs for in-flight cardiac arrest;
- documentation of the ineffectiveness of transcutaneous pacing for asystole
- documentation of the ineffectiveness of high-dose epinephrine in out-of-hospital arrest
- implementation of international uniform recommendations for reporting cardiac arrests (the "Utstein Guidelines")
- recognition that there were too many causes of cardiac emergencies that went unrecognized and untreated, because of the lack of AHA guidelines (leading to the ACLS for Experienced Provider course; and new editions of the ECC Handbook)
- implementation of the "5-Quadrads" approach to ACLS education by creating the ACLS for Experienced Providers Course
- bringing a more formal epidemiological and evidence-based approach to the development of CPR and ECC Guidelines
- fostering the principles of "zero-risk therapeutics" in ECC and CPR guidelines
- initiating and leading a new "scientific outreach effort" to make guideline development an "international consensus on Science"
- installing the principles of evidence-based medicine into the daily work of guideline development and consensus

CURRICULUM VITAE

Richard Oliver Cummins, M.D., M.P.H., M.Sc.

PERSONAL

- Birthplace: El Dorado, Arkansas.
- Marital Status: Married; Jenny; 26th anniversary, August 24, 1994.
- Three Children: Caroline, 22; Elisabeth, 20; David, 15

EDUCATION

- University of North Carolina, Chapel Hill, North Carolina, A.B., 1964-1968.
- Case Western Reserve University School of Medicine, Cleveland, Ohio, M.D., 1968-1972.
- University of Washington, Seattle, Washington, School of Public Health and Community Medicine, M.P.H. in Health Services Research, 1977-1979. (Robert Wood Johnson Clinical Scholar).
- London School of Hygiene and Tropical Medicine, London, England, M.Sc. in Epidemiology, 1979-1981 (Milbank Memorial Fund Scholar).

POSTGRADUATE TRAINING

- University of Virginia Internship, Medicine and Pediatrics, 1972-1973.
- National Health Service Corps; General Practice, Louisa, Virginia, 1973-1975.
- University of Virginia Hospital; Department of Medicine, Charlottesville, Virginia; Internal Medicine Residency, 1975-1977

FACULTY POSITIONS HELD

- Professor, Department of Medicine, University of Washington; July 1, 1992 to present
- Associate Professor, Department of Medicine, University of Washington, July 1, 1985 to June 30, 1992.
- Assistant Professor, Department of Medicine, University of Washington, 1981-1985.
- Instructor, Department of Clinical Epidemiology and General Practice, Royal Free Hospital School of Medicine, London, England, 1980-1981).
- Instructor (on leave), Department of Medicine, University of Washington, 1979-1981.Acting Instructor, Department of Medicine, University of Washington, 1977-1979.

HOSPITAL POSITIONS HELD

- National Health Service Corps; Louisa, Virginia, 1973-1975.
- Attending Physician, Primary Care Center; Harborview Medical Center, University of Washington, 1981-1982.
- Attending Physician, Emergency Medicine Service; University Hospital, University of Washington, 1982-present.

HONORS and AWARDS

- John Motley Morehead Scholarship, University of North Carolina, 1964.
- Phi Beta Kappa, University of North Carolina, 1968.
- Alpha Omega Alpha; Case Western Reserve University, 1972.
- James Kindred Teaching Award, University of Virginia, 1977.
- Robert Wood Johnson Clinical Scholar, University of Washington
- Milbank Memorial Fund Scholar, University of Washington, 1979.
- American Heart Association, Distinguished Service Award, Washington State ACLS Affiliate Faculty, Oct, 1990.
- American Heart Association, Distinguished National Service Award, (ACLS National Chair); May 17, 1994
- American Heart Association, Volunteer of the Year Award, Washington State AHA Affiliate, July, 21, 1994
- American Heart Association, "Time, Feeling and Focus Award" National Volunteer Award, November 18, 1994
- American Heart Association: *"National Award of Meritorious Achievement."* (one of four given Nationally); June 21, 1995
- Citizen CPR Foundation: *National Hans Dahll Award for Outstanding Contributions to the Field of ECC and CPR*; September, 2002
- *Emergency Medicine Faculty: Clinical Teacher of the Year Award-2004.* Selected by the graduating residents in Emergency Medicine; University of Washington/Madigan Army Medical Center Emergency Medicine Residency Program

BOARD CERTIFICATION
- Diplomate of the American Board of Emergency Medicine; July 15, 1996 (#930960)
- Diplomate of the American Board of Internal Medicine, June, 1977 (#60678)

LICENSURE
- Current: State of Washington, 1977; Number 252-09.
- Not renewed: State of Virginia, 1973; Number 023835.
- Not renewed: United Kingdom, 1980

PROFESSIONAL ORGANIZATIONS
- Society for Academic Emergency Medicine
- National Association Emergency Medical Services Physicians
- American College of Emergency Physicians
- American Board of Internal Medicine (inactive).
- American College of Physicians (inactive).
- American Heart Association
- American Medical Association (inactive).
- American Public Health Association (inactive)
- Society for Medical Decision Making (inactive)

EDITORIAL RESPONSIBILITIES
- Associate Editor, Currents in Emergency Cardiac Care, American Heart Association, Dallas, TX; 1988-1999
- Associate Editor, Journal of General Internal Medicine; 1994-99
- Editorial Board, American Journal of Emergency Medicine; 1986-92
- Editorial Board, Prehospital and Disaster Medicine; 1986-90
- Editorial Board, Annals of Emergency Medicine; 1988-1993
- Advisory Panel, Journal American Medical Association (Section on Concepts in Emergency and Critical Care); 1985-90
- Advisory Panel, Journal American Medical Association (Panel on Diagnostic & Therapeutic Technology Assessment); 1985-90

JOURNAL PEER-REVIEW SERVICE (most inactive as of 2004)
- American Heart Journal
- American Journal of Emergency Medicine
- Annals of Emergency Medicine
- Canadian Medical Association Journal
- Chest
- Circulation
- Journal of the American Medical Association
- Journal of Chronic Diseases
- Journal of Emergency Medical Services
- Journal of Prehospital and Disaster Medicine
- Journal of General Internal Medicine
- New England Journal of Medicine
- Medical Decision-Making
- Resuscitation
- European Journal of Emergency Medicine
- Academic Emergency Medicine

SPECIAL NATIONAL AND INTERNATIONAL RESPONSIBILITES
- Senior Science Editor; American Heart Association; Emergency Cardiovascular Care; Appointment: Dec, 1997
- Chairman, National Emergency Cardiac Care Committee; American Heart Association (Term runs 1996 to 1999)
- Member, American Heart Association National Oversite Committee, Task Force on Five-Year Business Plan
- Member, (1994-present) American Heart Association National Task Force on "Safety and Efficacy of Automated External Defibrillators"
- Vice-chairman, National Emergency Cardiac Care Committee; American Heart Association; Dallas, Texas (1995-6)
- Chairman, (1991-94) National Advanced Cardiac Life Support Subcommittee, American Heart Association.

- Liaison, (1992) American Heart Association to the European Resuscitation Council
- Co-Chairman (1992) International Liaison Committee on Resuscitation Guidelines in Emergency Cardiac Care (American Heart Association, European Resusciation Council, Australian Resuscitation Council, Resuscitation Councila of Southern Africa)
- StateCo-chairman (1992-93) Washington State American Heart Association, ECC Committee
- Planning Committee. American Heart Association National Fact-finding exercise. Dallas, Texas; Sept 26-30, 1992
- Planning Committee. American Heart Association National Guidelines Conference. Dallas, Texas; February 22-26, 1992.
- Co-Chairperson, Emergency Cardiac Care '92 Update Conference; Seattle, Washington, April 9-11, 192.
- Member, National Advanced Cardiac Life Support Subcommittee, American Heart Association (1987-present)
- Member, National Emergency Cardiac Care Committee, American Heart Association
- Member, Board of Directors, Citizen's CPR Foundation.
- Co-Chairperson, Emergency Cardiac Care Update National Conference; Seattle, Washington, 1992.
- Co-Chairman, Utstein-II Conference on Recommended Guidelines for Uniform Reporting of Cardiac Arrest Outcome Data, December 9-11, 1991; Bagshot, Surrey, England.
- Chairman, Task Force on Automated Defibrillation Training and Education, Advanced Cardiac Life Support Subcommittee, American Heart Association
- Member, Conference Planning Committee, 1992 National Conference on Guidelines for Emergency Cardiac Care and Cardiopulmonary Resuscitation, American Heart Association; Dallas, Texas.
- Chair, Committee on Emergency Medical Services Systems, 1992 National Conference on Guidelines for Emergency Cardiac Care and Cardiopulmonary Resuscitation, American Heart Association;
- Member, American Heart Association Council on Cardio-Pulmonary and Critical Care Medicine
- Scientific Advisor, First Vienna Congress on Sudden Cardiac Death; March 24-26, 1993
- Symposium Organizer, "Chain of Survival in Europe and America; First Vienna Congress on Sudden Cardiac Death; March 24, 1993
- Scientific Advisor, 6th World Congress on Disaster and Emergency Medicine; Hong Kong; 1989.
- Scientific Advisor, 7th World Congress on Disaster and Emergency Medicine; Montreal, 1991
- Symposium Organizer, Cardiology Session, 6th World Congress on Disaster and Emergency Medicine; HongKong; 1989.
- Symposium Organizer, Cardiology Session, 7th World Congress on Disaster and Emergency Medicine; Montreal, 1991
- Member, National Program Committee, Society for Academic Emergency Medicine; 1989 Annual Meeting; 1990 Annual Meeting.
- Member, Defibrillation Standards Committee, American Association for Medical Instrumentation.
- Member, Subcommittee on Standards for Automated External Defibrillators, American Association for Medical Instrumentation.
- Moderator, Scientific Papers Session, Society for Academic Emergency Medicine, 1989 Annual Meeting, 1990 Annual Meeting.
- Member, Center Devices and Radiologic Health National Committee on Defibrillator Use Problems (Chair, Subcommittee on Manuscript/Report Preparation).

SPECIAL WASHINGTON STATE RESPONSIBILITIES

- State AHA ECC Committee member 1994- present
- EMS Task Force on EMS-No CPR Protocols 1992-1995
- State AHA ECC Committee Co-Chairman 1994 to 1995
- State AHA ACLS Committee Member
- Member, State AHA Board of Trustees
- Member, State AHA Research Committee

UNIVERSITY, DEPARTMENTAL AND MEDICAL CENTER RESPONSIBILITIES:

- Acting Director, UWMC Affiliated Residency Program in Emergency Medicine, University of Washington and Madigan Army Medical Center (
- Associate Director, Emergency Medical Services; University of Washington Medical Center.
- Senator, Department of Medicine to the Faculty Senate of the University of Washington (1989-1992)
- Member, University of Washington Medical Center, Quality Assurance Committee.
- Chairman, University of Washington Medical Center, Quality Assurance Committee. (1991-present)
- Member, Standing Committee: Introduction to Scientific Method in Science, School of Medicine.

- Member, Advisory Committee: Epidemiology Course for Medical Students
- Member, Medical Thesis Committee, School of Medicine.
- Member, Patient Care Information Subcommittee, Medical Care Information Systems Project, University of Washington Medical Center.
- Member, Quality Planning Council, University of Washington Medical Center
- Member, Physicians Focus Group on Quality Improvement, UWMC.

MAJOR GRANT APPLICATIONS AND AWARDS:

1. Principal Investigator: "*The early use of transcutaneous pacing by emergency Medical technicians.*" Grant #HSO-5740-02 from the National Center for Health Services Research, Washington , D.C.

2. Principal Investigator: *"A controlled clinical trial of automated external defibrillators by Emergency Medical Technicians"*. Grant #HSO-5174 from the National Center for Health Services Research, Washington, D.C.

3. Co-Principal Investigator: *"The use of automatic defibrillators by the companions and family members of high risk cardiac patients."* Grant #HSO-4894, from the National Center for Health Services Research, Washington, DC.

4. Co-Principal Investigator: *"The development of a Center for the Evaluation of Emergency Medical Services"*, series of grants from the Asmund S. Laerdal Foundation (one for 3 years, and one for 5 years.)

5. Co-Principal Investigator: *"Evaluation of a semi-automatic external defibrillators used by community responders, and family member of high risk patients"*. Grant from the Physio-Control Corporation, Redmond, Washington.

6. Co-principal Investigator: *"Evaluation of a solid state medical control module in a semi-automated external defibrillator"*. Grant from the Asmund S. Laerdal Foundation, Stavanger, Norway

7. Laerdal Traveling Scholar Fellowship: awarded 1991 from the Laerdal Foundation for Acute Medicine. Support for Comparative evaluation of Emergency Medical Services in Europe.

8. Principal investigator: *"The use of automated external defibrillators for the treatment of in-hospital cardiac arrest."* Grant support from the Physio-Control Corporation.

9. Principal Investigator: *"The ORCA Project: Outcome Research in Cardiac Arrest."* A multicenter, multidisciplinary project submitted to the Agency of Health Care and Policy Research. (Submitted June 1, 1991 for funding to begin April 1992). (Approved, Not funded) Resubmitted June 1, 1992 (Approved Not funded)

10. Principal Investigator: "A population-based registry of survivors of out-of-hospital cardiac arrest: interventions, quality of life and long-term survival" National Center, American Heart Association; Submitted July 1, 1992 for funding to begin July, 1993 [Not funded]

11. Co-Principal investigator: "Women and Sudden Cardiac Death: epidemiology and survival". National Heart Lung and Blood Institute. Submitted December, 1992 for funding to begin July 1, 1993. [Not funded]

12. Principal investigator: "The Quality of Survival following Out-of-Hospital Cardiac Arrest." Seattle Medic One Foundation. Approved: September 23, 1993 ($40,000 for two years).

13. Principal investigator: "Survival from Out-of-Hospital cardiac arrest: relationship between interventions and activity level and neuropsychological function in survivors." Submitted July 1, 1993 to the National Grant-in-Aid program of the American Heart Association. (Approved: May, 1994; $150,000 over three years)

14. Co-Principal investigator: "Amiodarone used in refractory cardiac arrest due to VF in the Prehospital setting." Seattle Medic One Foundation. Approved: October 4, 1993; $25,000 per year for three years)

15. Co-Principal Investigator: Public Access Defibrillation Clinical Trial. National Heart Lung and Blood Institute. 1999-2004.

BIBLIOGRAPHY

Peer-Reviewed Journal articles: original research

1978.

1. Cummins RO, Suratt PM, Horwitz. Disseminated strongyloides stercoralis infection--association with ectopic ACTH syndrome and depressed cell-mediated immunity. Archives of Internal Medicine 1978;138:1005-1006.

1980

2. Cummins RO, Smith RW, Inui TS. Communication failure in primary care: failure of consultants to provide follow-up information.JAMA 1980;243:1650-1652.

3. Cummins RO, LoGerfo JP, Inui TS, Weiss NS. High-yield referral criteria for post-traumatic skill roentgenography: response of physicians and accuracy of criteria. JAMA 1980;244:673-676.

4. Cummins RO. Clinicians' reasons for overuse of skull radiographs. Am J Roent 1980;135:549-552. (This article also appeared in the Am J Neuro Radiol 1980;1:339-342).

1981

5. Cummins RO. Learning to Write. Can books help? J Med Ed 1981;56:128-132.

6. Cummins RO, Jarman B, White PM. Do general practitioners have different "referral thresholds?" Brit Med J 1981;282:1037-1039.

7 Cummins RO, Shaper AG, Walker M, Wales C. Smoking and drinking by middle-aged British males: Effects of social class and town of residence. Brit Med J 1981;283:1497-1502.

1982

8. Cook DG, Cummins RO, Bartley M, Shaper AG. Health consequences of unemployment in middle-aged men in Great Britain. Lancet 1982;i:1290-1294.

9. Cummins RO, Cook DG, Hume R, Shaper AG. Tranquilizer use in middle-aged British males: Association with smoking, drinking, and unemployment. J Royal Coll Gen Pract 1982;32:745-752.

1983

10. Cummins RO. Recent trends in salt consumption and stroke mortality: Any help for the salt-hypertension debate? J Epidemiology and Comm Med1982;32:745-752.

1984.

11. Cummins RO, Eisenberg MS, Bergner L, Murray JA. The sensitivity, accuracy and effectiveness of an automatic external defibrillator: Report of a field evaluation by Paramedics. Lancet 1984:ii:318-320.

12. Cummins RO, Eoseimberg MS, Bergner L, Hallstrom AP, Hearne T, Murray JA. Automatic External Defibrillation: Evaluations of effectiveness in the home and in emergency medical systems. Ann Emerg Med 1984 (Part 2, Sept);13:798-801.

13. Cummins RO, Knowles P. Emergency Department advicetelephone calls: Who calls and why? J Emergency Nursing 1984;10:283-286.

1985

14. Eisenberg MS, Hallstrom AP, Carter WB, Cummins RO, Bergner L, Pierce J: Emergency CPR via telephone. Am J of Public Health 1985;75:47-50.

15. Cummins RO, Eisenberg MS. Prehospital Cardiopulmonary Resuscitation: Is it effective? JAMA 1985;253:2408-2412.

16. Cummins RO, Eisenberg MS, Hallstrom AP, Litwin PE. Survival of out-of-hospital cardiac arrest with early initiation of cardiopulmonary resuscitation. Am J of Emergency Medicine 1985;3:114-118.

17. Cummins RO, Eisenberg MS, Moore JE, Hearne TR, Andresen E, et al. Automatic External Defibrillators: Clinical, training, psychological, and public health issues. Ann Emerg Med 1985;14:755-7690.

18. Cummins RO, Eisenberg MS, Hallstrom AP, Hearne TR, Graves JR. What is a "save"?: Outcome measures in clinical evaluations of automatic external defibrillators. Am Heart J 1985;110:1133-1138.

1986

19. Eisenberg MS, Bergner L, Hallstrom AP, Cummins RO. Sudden cardiac death. Scientific American 1986;254:37-43.

20. Eisenberg MS, Cummins RO. Defibrillation performed by the emergency medical technician. Circulation 1986;74(suppl IV):IV-9-12.

21. Eisenberg MS, Cummins RO, Litwin PE, Hallstrom AP. Out-of-hospital cardiac arrest: significance of symptoms in patients collapsing before and after arrival of paramedics. Am J Emerg Med 1986;4:116-120.

22. Cummins RO, Eisenberg MS. Automatic external defibrillators: clinical issues for cardiology. Circulation 1986;73:381-385. (This article also appeared in CurrentViews from Circulation: editorials and perspectives, Sobel BE, ed. Monograph #127; Dallas, American Heart Association, 1987.)

23. Eisenberg MS, Carter W, Hallstrom AP, Cummins RO, Litwin PE, Hearne TR. Identification of Cardiac Arrest by Emergency Dispatchers. Am J of Emerg Med 986;4:299-301.

24. Moore JE, Eisenberg MS, Andresen E, Cummins RO, Hallstrom AP,Litwin PE. Home placement of automatic external defibrillators among survivors of ventricular fibrillation. Ann Emerg Med 1986;15:811-812.

25. Cummins RO, Eisenberg MS, Austin D, Graves JR, Litwin PE. Ventilation Skills of Emerg Medical Technicians: a teaching challenge for emergency medicine.Annals Emerg Med 1986;15:1187-1192.

1987

26. Moore JE, Eisenberg MS, Cummins RO, Hallstrom AP, Litwin PE, Carter W. Lay person use of automatic external defibrillation. Ann Emerg Med 1987;16:669-672.

27. Cummins RO, Eisenberg MS, Litwin PE, Graves JR, Hearne TR, Hallstrom AP. Automatic external defibrillators used by emergency medical technicians: a controlled clinical trial. JAMA 1987;257:1605-1610.

28. Cummins RO. EMT-Defibrillation: National Guidelines for Implementation. Am J Emerg Med 1987;5(May):254-257.

29. Litwin PE, Eisenberg MS, Hallstrom AP, Cummins RO. Location of cardiac arrest and its effect on survival from cardiac arrest. Annals Emerg Med 1987;16:787-791)

1988

30. Cummins RO, Stults KR, Haggar B, Kerber RE, Schaeffer S, Brown DD. A new rhythm library for testing automatic external defibrillators: performance of three devices. J Am Coll Cardiol 1988;11:597-602.

31. Cummins RO, Champan PM, Chamberlain DC, Schubach JA, Litwin PE. In-flight deaths during air travel: how big is the problem? JAMA 1988;259:1983-1988.

32. Cummins RO. Defibrillation. Emergency Medicine Clinics of North America 1988 May;6(2):217-240

33. Cummins RO, Austin DA, Jr., Graves JR, Hambley C. An innovative approach to medical control: semi-automatic defibrillators with solid state memory modules for recording cardiac events. Ann Emerg Med 1988;17:818-824.

34. Cummins RO, Austin DA, Jr. The frequency of "occult" ventricular fibrillation masquerading as a flat line in prehospital cardiac arrest. Ann Emerg Med 1988;17:813-817.

35. Hearne TR, Cummins RO. Improved survival from cardiac arrest in the community. PACE 1988 (Part II);11:1968-1973./

1989

36. Cummins RO, Schubach JA, Litwin PE, Hearne TR. Training lay persons to use automatic external defibrillators: success of initial training and one year retention of skills. Am J Emerg Med 1989;7:143-149.

37. Eisenberg MS, Moore J, Cummins RO, Andresen E, Litwin PE, Hallstrom AP, Hearne T. Use of the automatic external defibrillator in homes of survivors of out-of-hospital ventricular fibrillation. Am J Cardiol 1989;63:443-446.

38. Cummins RO, Schubach JA. Frequency and types of medical emergencies among commercial air travelers. JAMA 1989;261:1295-1299.

1990

39. Cummins RO, Haulman J, Quan L, Graves JR, Bilnowski W, Horan, S. Near fatal yew berry overdose treated with transcutaneous pacing, and digoxin-specific antibodies. Ann Emerg Med 1990;(Jan)19(1):38-43.

40. Eisenberg MS, Horowitz R, Cummins RO, Hearne TR. A tale of 29 cities: cardiac arrest and resuscitation. Ann Emerg Med 1990;(Feb)19(2):238-243.

41. Cummins RO, Chesemore KD, White RD and the Defibrillator Working Group. Defibrillator Failures: causes of problems and recommendations for improvement. JAMA 1990(Aug 22/29);264:1019-1025.

42. Eisenberg MS, Cummins RO, Hearne TR, Damon SK, et al. Survival rates from cardiac arrest: recommendations for uniform definitions and data to report. Ann Emerg Med 1990;19(11)(Nov):1249-1259.

1991

43. Cummins RO, Thies W. Automated external defibrillators and the Advanced Cardiac Life Support Program: A new initiative from the American Heart Association (editorial). Amer J Emerg Med 1991(Jan);9:91-93.

44. Cummins RO, Ornato, JP, Thies, W, Pepe, PE, et al. Improving survival from cardiac arrest: the chain of survival concept. Circulation 1991 May;83(5):1832-47.

45. Cummins RO, Chamberlain DA, Eisenberg MS, Bossaert L, Holmberg S, et al. The "Utstein Style": recommended guidelines for uniform reporting of data from out-of-hospital cardiac arrest. **Circulation** 1991 Aug;84(2):960-75.

- (Note; as the product of an international consensus conference this article was reprinted in **Annals of Emergency Medicine** 1991;20:861-874(August), **Resuscitation1991**;22:1-26(August). An abridged version appeared in the **Br Heart J** 1992;67:325-33. **Eur J Anaesthesiol** 1992;9(May):245-56
- The article has been translated into German: (Notfall. Empfehlungen zur einheitlichen Datenerfassung bei Herzstillstand-Teil I Der "Utstein-Style". (Translated by A. Schmidt and W. Dick). **Notfallmedizin** 1991;17:510-518. This German version was reprinted in **Intensivmedizin und Notfallmedizin**).
- The article has been translated into French ("Recommendation pour une description uniforme des donnees concernant l'arret cardiaque extra-hospitalier: le style d'Utstein" (Translated by Carli P, Riou B, Barriot P, Lambert Y). **JEUR** 1991;4:202-223(European Journal of Emergencies)

46. Cummins R, Chamberlain D. The Utstein Abbey and Survival from Cardiac Arrest: what is the connection? Annals Emerg Med 1991;20(August):918-919.

47. Eisenberg MS, Cummins RO, Larsen MP. Numerators, denominators and survival rates: reporting survival from out-of-hospital cardiac arrest. Am J Emerg Med 1991 Nov,9(6):544-6.

1992

48. Quan L, Graves JR, Kinder DR, Horan S, **Cummins RO.** Transcutaneous cardiac pacing in the treatment of out-of-hospital pediatric cardiac arrests. Ann Emerg Med 1992;21:905-909.

49. Brown CG, Martin DR, Pepe PE, Stueven H, Cummins RO, Gonzalez E and the Multicenter High-dose epinephrine study Groups. A comparison of standard-dose and high-dose epinephrine in cardiac arrest outside the hospital. New Engl J Med 1992;327:1051-5

1993

50. Cummins RO, Graves JR, Larsen MP et al. The use of transcutaneous pacing for asystolic out-of-hospital cardiac arrest. N Engl J Med 1993;328(May 17):1377-82

51. Hoekstra, JW, Banks, JR, Martin DR, Cummins RO, Pepe PE, et al. The Effect of First-responder automated defibrillation on time to therapeutic interventions during out-of-hospital cardiac arrest. Annal Emerg Med 1993;22(Aug):1311-2

52. Larsen MP, Eisenberg, MS, Cummins, RO. Predicting Survival from out-of-hospital cardiac arrest: a graphical model. Ann Emerg Med 1993(Nov);22:1652-1658.

53. Martin DR, Gavin T, Bianco J, Brown CG, Stueven H, Pepe PE, Cummins RO, Gonzalez E, Jastremski M. Initial countershock in the treatment of asystole. Resuscitation 1993;26:63-68.

53A. Cummins, RO. La "cadena de sobrevida": un concepto que puede salvar vidas. Enero 1993:1:45-47.

1994

54. Martin DR, Soria DM, Brown CG, Pepe PE, Gonzalez E, Jastremski M, Stueven H, Cummins RO. Agreement between paramedic-estimated weights and subsequent hospital measurements in adults with out-of-hospital cardiac arrest. Prehospital and Disaster Medicine 1994; 9:54-7

55. Martin DR, Mill J, Brown CG, Pepe PE, Gonzalez E, Jastremski M, Stueven H, Cummins RO. Outcome of insulin-treated diabetics receiving epinephrine during cardiac arrest. Am J Emerg Med 1994 Mar 12(2). P. 147-50.

56. Dull S, Graves JR, Larsen MP, Horan S, Cummins RO. Expected Death and unwanted resuscitation in the prehospital setting. Ann Emerg Med 1994;23(5):997-1002.

1995

57. Zaristky AR, Nadkarny V, Cummins RO, Hazinski MF et al. The Utstein style for reporting outcome data for Pediatric Resuscitation. Circulation 1995;92(Oct 1):2006-2026, Pediatrics 1995;96(4):765-779, Annals of Emergency Medicine, Resuscitation (simultaneous publication)

58. Appleton GA, Cummins RO, Larsen MP, Graves JR. CPR and the Single Rescuer: Should they Call First? or Call Fast? Annals of Emergency Medicine 1995;25(No 4; April):492-494

59. Biros MH, Lewis RJ, Olson CM, Runge JW, Cummins RO, Fost N. Informed Consent in Emergency Research: Consensus Statement from the Coalition Conference of Acute Resuscitation and Critical Care Researcher. JAMA 1995;273:1283-1287 (April 26).

1996

60. Idris A, Becker L, Ornato, JP, Hedges, JR, Bircher, NG Chandra, NC, Cummins, RO, Hazinski, MF et al Utstein-Style Guidelines for Uniform Reporting of Laborartory CPR Research: A Statement for Healtcare Professionals. Circulation 1996;94(Nov)2324-2336 (also jointly published in: Annals of Emergency Medicine, Resuscitation 1996;33:69-84 (Circulation 1996;94:2324-2336 (November 15, 1996)

61. Benson D, Klain M, Braslow A, Cummins R, Grenvik A, Herlich A, et al. Future Directions for resuscitation research. I. Advanced airway control measures. Resuscitation 1996;32:51-62.

1997

62. Kerber RE, Becker LB, Bourland JD, Cummins RO, Hallstrom AP et al. Automatic external defibrillators for public acces defibrillation: recommendations for specifying and reporting arrhythmia analysis algorithm performance, incorporatiing new waveforms, and enhancing safety. Circulation 1997;95:1677-1682.

63. Cummins RO, Chamberlin D, Hazinski MF, Nadkarni V, Kloeck W et al. Recommended Guidelines for Reviewing, Reporting, and Conducting Research on In-hospital Resuscitation: the In-Hospital "Utstein Style". Circulation 1997;95:2213-2239. (Joint publication in Annals of Emergency Medicine 1997;29:650-679).

64. **Cummins RO**, Sanders A, Mancini E, Hazinski MF. In-hospital resuscitation: executive summary. Ann Emerg Med. 1997 May;29(5):647-9.

65. **Cummins RO**. Human research on cardiopulmonary resuscitation: current constraints on implementation. New Horiz. 1997 May;5(2):120-7. Review.

1998

66.. **Cummins RO**, Hazinski MF, Kerber RE, Kudenchuk P, Becker L, Nichol G, Malanga B, Aufderheide TP, Stapleton EM, Kern K, Ornato JP, Sanders A, Valenzuela T, Eisenberg M. Low-energy biphasic waveform defibrillation: evidence-based review applied to emergency cardiovascular care guidelines: a statement for healthcare professionals from the American Heart Association Committee on Emergency Cardiovascular Care and the Subcommittees on Basic Life Support, Advanced, Cardiac Life Support, and Pediatric Resuscitation. Circulation. 1998 Apr 28;97(16):1654-67.

67. Jerin JM, Ansell BA, Larsen MP, **Cummins RO**. Automated external defibrillators: skill maintenance using computer-assisted learning. Acad Emerg Med. 1998 Jul;5(7):709-17.

68. **Cummins RO**, Hazinski MF. The next chapter in the high-dose epinephrine story: unfavorable neurologic outcomes? Ann Intern Med. 1998 Sep 15;129(6):501-2.

69. **Cummins RO**, Hazinski MF. Resuscitations from pulseless electrical activity and asystole: how big a piece of the survivors' pie? Ann Emerg Med. 1998 Oct;32(4):490-2.

70. Kloeck W, **Cummins RO**, Chamberlain D, Bossaert L, Callanan V, Carli P, Christenson J, Connolly B, Ornato JP, Sanders A, Steen P. [Special situations in resuscitation]. Arq Bras Cardiol. 1998 Dec;71 Suppl 1:29-42. Portugese.

71. Kloeck W, **Cummins RO**, Chamberlain D, Bossaert L, Callanan V, Carli P,Christenson J, Connolly B, Ornato JP, Sanders A, Steen P. [Early defibrillation]. Arq Bras Cardiol. 1998 Dec;71 Suppl 1:17-8. Portugese.

1999

72. **Cummins RO**, Hazinski MF. Apples and oranges. Ann Emerg Med. 1999 May;33(5):602-3.

73. **Cummins RO**.Why are researchers and emergency medical services managers not using the Utstein guidelines? Acad Emerg Med. 1999 Sep;6(9):871-5.

74. Kudenchuk PJ, Cobb LA, Copass MK, **Cummins RO**, Doherty AM, Fahrenbruch CE, Hallstrom AP, Murray WA, Olsufka M, Walsh T. Amiodarone for resuscitation after out-of-hospital cardiac arrest due to ventricular fibrillation. N Engl J Med. 1999 Sep 16;341(12):871-8.

75. **Cummins RO**, Hazinski MF. Cardiopulmonary resuscitation techniques and instruction: when does evidence justify revision? Ann Emerg Med. 1999 Dec;34(6):780-4.

2000 *(indented references indicate articles simultaneously published in a companion journal)*

76. **Cummins RO**, Hazinski MF. Guidelines based on fear of type II (false-negative) errors : why we dropped the pulse check for lay rescuers. Circulation. 2000 Aug 22;102(8 Suppl):I377-9.

77. **Cummins RO**, Hazinski MF. Guidelines based on fear of type II (false-negative) errors. Why we dropped the pulse check for lay rescuers. Resuscitation. 2000 Aug 23;46(1-3):439-42. Review.

78. **Cummins RO**, Hazinski MF. The most important changes in the international ECC and CPR guidelines 2000. Circulation. 2000 Aug 22;102(8 Suppl):I371-6.

79. **Cummins RO**, Hazinski MF. The most important changes in the international ECC and CPR guidelines 2000. Resuscitation. 2000 Aug 23;46(1-3):431-7.

80. **Cummins RO**, Hazinski MF.Guidelines based on the principle "first, do no harm" : new guidelines on tracheal tube confirmation and prevention of dislodgment. Circulation. 2000 Aug 22;102(8 Suppl):I380-4.

81. **Cummins RO**, Hazinski MF. Guidelines based on the principle 'First, do no harm'. New guidelines on tracheal tube confirmation and prevention of dislodgment. Resuscitation. 2000 Aug 23;46(1-3):443-7. Review.

2003

82. Chamberlain DA, Hazinski MF and **Writing Group from the American Heart Association**, European Resuscitation Council, and the International Liaison Committee on Resuscitation. *Education in Resuscitation.* Resuscitation 2003;59:11-43.

83. Ornato JP, McBurnie MA, Nichol G.et al. and the **Public Access Defibrillation Trial Investigators**. *The Public Access Defibrillation (PAD) Trial: study design and rationale.* Resuscitation 2003;56:135-47.

2004

84. Mosesso VN HJr. Brown LH, Greene HL, et al and the **Public Access Defibrillation Trial Investigators.** *Conducting research using the emergency exception from informed consent: the Public Access Defibrillation Trial experience*. Resuscitation 2004;61:29-36.

85. Sayre MR, Travers AH, Daya M, Greene HL, Salive ME, et al and the **Public Access Defibrillation Trial Investigators**. *Measuring survival rates from sudden cardiac arrest: the elusive definition.* Resuscitaion 2004;62:25-34.

86. The **Public Access Defibrillation Trial Investigators**. Public-Access Defibrillation and Survival after Out-of-Hospital Cardiac Arrest. N Engl J Med 2004;351:637-46.

2005

87. Aufderheide T, Hazinski MF, Nichol G, Cummins, RO, et al. Community Lay Rescuer Automated External Defibrillation (Aed)Programs: Key State Legislative Components and Implementation Strategies A Summary of a Decade's Experience for Healthcare Providers, Policymakers,Legislators, Employers and Community Leaders. **Circulation** 2005 (In Press)

88. Cummins RO, Chamberlain D, Montgomery WH, Kloeck WGJ, Nadkarni V. International Collaboration in Resuscitation Medicine **Circulation** 2005.(In press).

Peer-Reviewed Journals: Editorials and Integrative Reviews

1982

1. Cummins RO. A Yank Reads for Pleasure. Brit Med J 1982;284:105-106.

1985

2. Cummins RO, Eisenberg MS, Graves JR, Pierce J, Damon SK. EMT-Defibrillation: Is it right for you? J Emerg Medical Services 1985;10:60-64.

3. Cummins RO, Graves JR, Eisenberg MS, Damon SK, Pierce J. Implementing EMT-Defibrillation. J Emerg Medical Services 1985;10:44-47.

4. Cummins RO. Cardiac Arrest: Lessons from the Fifth Purdue Conference on CPR and Defibrillation (editorial). Am J of Emergency Medicine 1985;3:171-173.

5. Cummins RO, Eisenberg MS, Graves JR, Austin D, Damon S. EMT-Defibrillation. Part 3: Achieving Medical Control. J Emerg Medical Services 1985;10:48-53.

6. Cummins RO. Cardiopulmonary resuscitation and sudden cardiac death. An annotated bibliography of the 1984 literature. Am J of Emerg Med 1985;3:485-493.

7. Eisenberg MS, Cummins RO. Termination of CPR in the prehospital arena. Ann Emerg Med 1985;14:1106-1107.

8. Cummins RO, Eisenberg MS. Cardiopulmonary resuscitation--American Style. Br Med J 1985;291:1401-1403.

9. Eisenberg MS, Cummins RO. Automatic external defibrillation: Bringing it home. Am J Emerg Med 1985;3:568-569.

1986

10. Cummins RO: Is EMT-D right for you? Cummins RO. Current status of EMT-D. In: Making EMT-D Work: Proceedings from the University of Iowa Workshop. Part I. J Emerg Medical Services 1986;11:26-31.

11. Cummins RO. Medical Control. Cummins RO, Graves JR, Stults KR: The coming of automatic external defibrillation. In Making EMT-D Work: Proceedings from the University of Iowa Workshop. Part II. J Emerg Medical Services 1986;11:50-56.

12. Pierce J, Wendt R, Andresen E, Hearne TR, Eisenberg MS, Cummins RO, Litwin PE, Hallstrom A. Automatic External Defibrillation: Lay person use in the home. J Emer Med Services 1986;11:58-60.

1987

13. Stults KR, Cummins RO. Choosing between fully automatic or shock advisory external defibrillators. J Emerg Med Services 1987;12:71-73.

1988

14. Cummins RO. Interhospital transfer of acutely ill cardiac patients JAMA 1988;259:1707-1708.

15. Cummins RO, Crowell R, Shao X. Emergency Medicine in China--1987. Annals Emerg Med 1988;17:1069-1073.

1989

16. Cummins RO. Infection control guidelines for CPR Providers. JAMA 1989;262(Nov 17):2732-2734.

17. Cummins RO. From Concept to Standard-of-Care? A review of the clinical experience with automated external defibrillators. Ann Emerg Med 1989;(Dec)18:1269-1275.

1990

18. Cummins RO. Decision analysis, the Journal of General Internal Medicine, and the General Internist (editorial). J Gen Int Med 1990;5:June-July :512-514

19. Cummins RO, Eisenberg MS. From pain to reperfusion: what role for the 12-lead ECG? Annals Emerg Med 1990(Nov);19:1343-1345.

20. Cummins RO, Ornato J, Thies W et al. Encouraging Early defibrillation: the American Heart Association and automated external defibrillators. Ann Emerg Med 1990(Nov);19:1245-1248.

1991

21. Cummins RO. Getting ready for the 1992 National Conference on ECC and CPR. Am J Emerg Med 1991;9:295(May)

22. Cummins RO, Chamberlain DA. The Utstein Abbey and survival from cardiac arrst: what is the connection? Ann Emerg Med 1991 Aug;20(8):918-9.

1992

23. Cummins RO. The "Chain of Survival Concept: how it can save lives. Heart Disease and Stroke 1992;1(Jan/Feb):43-45.

24. Cummins RO. Matters of Life and Death: conversations between doctors and terminally ill patients. (Editorial). J Gen Int Med 1992;7(Sep-Oct):475-480

25. Cummins RO. CPR as a Medical intervention (Editorial). J Am Board Fam Practice 1993;6(Mar-Apr):137-141

26. Cummins, RO. Guidelines for cardiopulmonary resuscitation and emergency cardiac care, II: Adult Advanced Cardiac Life Support. JAMA 1992;268:2199-2241

1993

27. Cummins, RO. Emergency Medical Services and Sudden Cardiac Arrest: The "Chain of Survival" Concept. Annu Rev Publ Health 1993;14:313-333

28. Chamberlain D, Cummins RO. International emergency cardiac care: support, science, and universal guidelines. Ann Emerg Med 1993;22(Feb Part 2):508-11

29. Cummins RO. Moving towards uniform reporting and terminology. Proceedings of the Methodology in Cardiac Arrest Research Symposium. Annals of Emerg Med 1993:22:33-36

30. Cummins RO. The Utstein Style for uniform reporting of data from out-of-hospital cardiac arrest. Proceedings of the Methodology in Cardiac Arrest Research Symposium. Annals of Emerg Med 1993;22:37-40

31. Cummins RO. "Code Magic" for A Piece of my Mind. JAMA 1993;269:3076

1995

32. Cummins RO. "Witnessed Collapse and bystander CPR: what is really going on?" (an Editorial). Academic Emergnecy Medicine 1995;2(6):(In press)

33. Cummins RO. "CPR and Ventricular Fibrillation: Lasts Longer, Ends Better " (editorial) Annals of Emerg Med 1995; 25(June): 833-836.

34. Cummins RO, White RD, Pepe PE. "VF, AEDs and the FDA: Confrontation without comprehendsion" Annals Emerg Med 1995;26(Nov): 621-631

1996

35. Thompson W, Bellamy R, Cummins, RO et al. Funding Resuscitation Research. Crit Care Med 1996;24(2(Suppl)):S90-S94

1997

36. Cummins RO. Human Research on CPR: current constraints on implementaion. New Horizons 1997;5(2):120-127

37. Cummins RO, Chamberlain D. Consensus Development in Resuscitation: the growing movement toward international emergency cardiac care guidelines. In Cardiac Arrest: the Science and Practice of Resuscitation Medicine. Ed by Paradis NA, Halperin HR, Nowak RM. Williams & Wilkins; Philadelphia; 1996; 935-951

38. Cummins RO, Graves JR. Prehospital Cardiac Care: European and American perspectives. In Skinner D. Swain A, Peyton R, Robertson C. Cambridge textbook of Accident and Emergency Medicine. Cambridge; Cambridge University Press; 1997;

39. Cummins RO, Sanders A, Mancini E, Hazinski MF. In-hospital Resuscitation: Executive Summary. Annals Emerg Med 1997;29:647-649 (also published in Circulation 1997;95:2172-2173 (April 15, 1997)

1998

40. Cummins RO, Hazinski MF. "Public Access to Defibrillation: Response to Emergencies at Athletic Events--Economic, Training, and Cost Implications". In Estes NAM, Salem DN, Wang PJ (eds). *Sudden Cardiac Death in the Athlete. Armonk, NY: Futura Publishing Co., Inc.; 1998: 189-204*

41. Cummins RO, Hazinski MF. The next chapter in the high dose epinephrine debate: Unfavorable Neurologic Outcomes? Annals Internal Medicine 1998;129 Sept 15 Issue

42. Cummins RO, Hazinski MF. Resuscitations from pulseless electrical activity and asystole: how big a piece of the survivors' pie? Annals Emerg Med 1998;32:490-492(Oct)

43. Cummins RO, Hazinski MF. "Who Better to Implement Public Access Defibrillation than EMS Physicians and Directors?" Editorial. National Association of EMS Physicians Newsletter. July, 1998; page 13. Chicago; National Association of EMS Physicians.

2006

44. Cummins RO, Hazinski MF. The Quest for a Terminator. Annals Emerg Med 2006;(In press)

Editor or Co-Editor of Medical Books:

1. Cummins,RO, Eisenberg MS (eds): The Blue Book of Medical Diagnosis. Philadelphia; WB Saunders, 1985.

2. Cummins RO, Graves JR, Austin D, Jr: RapidZap! Automatic Defibrillation by Emergency Medical Technicians. Brady Training Publications. Englewood Cliffs, N.J.: 1989

3. Eisenberg MS, Cummins RO, Ho M (eds): Code Blue: CardiacResuscitation. WB Saunders and Company. Philadelphia; 1986.

4. Cummins RO, Editor; and the members of the National ACLS Subcommittee. The 1994 Textbook of Advanced Cardiac Life Support. American Heart Association, 1994; Dallas Texas.

4. Cummins RO, Editor; and the members of the National ACLS Subcommittee. Handbook of Algorithms and Drugs for Advanced Cardiac Life Support. American Heart Association, 1993; Dallas Texas.

5. Billi JA and Cummins RO, editors, Instructors Manual of Advanced Cardiac Life Support. American Heart Associations; 1994; Dallas, Texas

6. Cummins, RO and Graves JR. ACLS Scenarios: core-concepts for case-based learning. St Louis; Mosby Publishers; 1994.

7. Cummins RO, Editor; and the members of the National ACLS Subcommittee. The 1997-99 Textbook of Advanced Cardiac Life Support. American Heart Association, 1994; Dallas Texas.

8. Hazinski MF, Cummins RO. The AHA 1995 (2nd edition) Handbook of Emergency Cardiac Care: BLS, ACLS, PLS. American Heart Association; 1995, Dallas, Texas. Later editions:
   3rd Edition--1997;
   4th Edition--1999;
   5th Edition—2000

9. Cummins RO, editor; 2001 Instructors Manual of Advanced Cardiac Life Support. American Heart Associations; 2001; Dallas, Texas

10. Cummins RO, Hazinski, MF. The ACLS-2001 Provider Manual. American Heart Association; 2001; Dallas, Texas

11. Cummins RO; Editor. The ACLS-for Experienced Providers' Instructor's Toolkit. 1999; American Heart Association; Dallas, Texas.

12. Cummins RO, Editor; and the members of the National ACLS Subcommittee. ACLS—the Reference Textbook: vol 1—ACLS Principles and Practice; vol-2—ACLS for Experienced Providers. Dallas, TX; American Heart Association publisher; 2003 (ISBN numbers 0-87493-341-2 and 0-87493-424-9). AHA catalog number 70-2500 (1 of 2 and 2 of 2); 4/03.

Above AHA publications can be ordered from the following distributors: Channing Bete Company (www.channing-bete.com); Laerdal Medical Corporation (www.laerdal.com); WorldPoint ECC, Inc. (www.worldpoint-ecc.com)

Requested reviews, commentaries, poetry and miscellaneous publications:

1. Cummins RO, Eisenberg MS. EMT-Defibrilllation: A proven concept.. Emergency Cardiac Care: National Faculty Newsletter. American Heart Association. 1984;1(#4, Oct):1-3.

2. Eisenberg MS. Carter WB, Cummins RO, Bergner L: Dispatcher CPR Instruction via telephone. Emergency Cardiac Care: National Faculty Newsletter. American Heart Association. 1985;2(#5 March):1-2.

3. Eisenberg MS, Cummins RO. Latest advances in defibrillation. Resident and Staff Physician. 1986;32(6):3pc-6pc

4. Eisenberg MS, Cummins RO. Latest advances in defibrillation. Medical Times 1986;114:(8):31-34.

5. Cummins RO. Expanding the use of automatic external defibrillators to home and community. West J of Med 1987;146:609.

6. Cummins RO, Austin DA, et al. Training Curriculum for EMT-Defibrillation Programs using standard manual defibrillators. Olympia, Washington State Emergency Medical Services Department, 1986. (Copyright King County EMS Division, Department of Public Health).

7. Cummins RO, Austin DA, et al. Training Curriculum for EMT-Defibrillation Programs using automatic external defibrillators. Olympia, Washington State Emergency Medical Services Department, 1986. (Copyright King County EMS Division, Department of Public Health).

8. Cummins RO. High-altitude flights and risk of cardiac disease. JAMA 1988;260:3668-3669. (Q and A section).

9. Cummins RO. "Training Curriculum for Automated ExternalDefibrillation", in Instructor's Manual for Advanced Cardiac Life Support, 3rd edition; American Heart Association; Dallas, Texas (In press).

10. Cummins RO. Editorial commentary on Swor RA, Krome RL. Administrative support of emergency medical services medical directors: a profile. Prehospital and Disaster Med 1990;5:30 (Jan-March).

11. Cummins RO. The 1992 ACLS Guidelines: what's new? What's different? Coronary Acute Care; Cahners Publishing Company; March, 1993

12. Viderol, N. "The Defender of Defib". Emergency: the Journal of Emergency Services. 1993(Feb);25(2):20-23 (profile of Cummins with interview)

13. Cummins, RO. (Editorial in Emergency on new ACLS Changes)

14. Cummins RO. Automated external defibrillators: where we've been and where we're going. Resident and Staff Physician 1994;40(Jan):61-67.

15. Cummins RO. Code Smoke. Annals of Emerg Medicine 1994;24(2):298

16. Cummins RO. Red Lips and Painted Toenails. Journal of General Internal Medicine 1994; May Issue: pp.

Book Chapters

1. Graves JR, Cummins RO: "Defibrillation by Emergency Medical Technicians: A review". In Hafen BQ, Karren KJ (eds) Prehospital Emergency Care and Crisis Intervention: EMT-Review. 2nd ed. Englewood, Colorado; Morton Publishing Company; 1983. Denver, Colorado.

2. Cummins RO. "Options to shorten time to definitive care" in: Sudden death in the Community. Eisenberg, MS, et al (eds): traeger Scientific Press, 1984.

3. Cummins RO, Graves JR: "Defibrillation by Emergency Medical Technicians". In: Heckman JD, Rosenthal RE, et al (eds), Emergency Care and Transportation of the Sick and Injured, 4th ed, Park Ridge, Illinois; American Academy of Orthopedic Surgeons; 1987:572-586.

4. Cummins RO, Graves JR Clinical Results of Standard CPR: Out-of-hospital and In-hospital. In McKaye W, Bircher N, eds. Advances in Cardiac Resuscitation. pp. 87-102. New York, Churchill Livingstone, 1988.

5. Cummins RO. "Epidemiology of Sudden Death Outside the Hospital: Implications for prehospital emergency medical systems". In: Progress in Clinical Pacing. Eds Santini M, Pistolese M, Alliego A. Current Clinical Practice Series 51. Amsterdam; Excerpta Medica; 1988:329-342

6. Cummins RO. "Cardiac Arrest during Commercial Air Travel" in Chapman PJC, .Medical Emergencies during Commercial Air travel. Churchill, Livingstone; London, 1989.

7. Cummins RO, Graves JR. "Sudden Cardiac Arrest", in Rakel RE, ed. Conn's Current Therapy. WB Saunders; Philadelphia, 1990.

8. Cummins RO. "Traveling in Poor Health: cardiopulmonary health problems during commercial air travel" in Jong EC (eds) Health Advice for Travelers' Health Alert. American Health Consultants. 1990. Atlanta Georgia.

9. Cummins RO. "Automated External Defibrillation" in Textbook of Advanced Cardiac Life Support, 3rd edition; American Heart Association; Dallas, Texas,1990

10. Cummins RO. "Dementia", In: The Blue Book of Medical Diagnosis. Cummins RO, Eisenberg MS (eds): Philadelphia; WB Saunders, 1985.

11. Cummins RO. "Acid-Base Problems", In: IBID.

12. Cummins RO. "Mononucleosis", In: IBID.

13. Cummins RO. "Monoarticular Arthritis", In: IBID

14. Cummins RO. "Systemic Lupus Erythematosus", In: IBID.

15. Cummins RO. "Progressive Systemic Sclerosis", In: IBID.

16. Cummins RO. "Spondylarthropathies", In: IBID.

17. Cummins RO. "Anemia", In: IBID.

19. Cummins RO: "Ankle Injuries". In: IBID.

20. Cummins RO: "Initial assessment of trauma patients". in: IBID

18. Cummins RO. "Knee Injuries". In: Eisenberg MS, Copass M, eds, Emergency Medical Therapy, 3rd edition. Philadelphia, WB Saunders, 1987.

22. Cummins RO: "Basic Cardiopulmonary resuscitation". In: Eisenberg MS, Cummins RO, Ho M (eds): Code Blue: Cardiac Resuscitation. WB Saunders and Company. Philadelphia; 1987.

23. Cummins RO: "Transcutaneous cardiac pacing" In: IBID.

24. Cummins RO: "Defibrilllation", In: IBID.

25. Cummins RO: "Airway management techniques", In: IBID

26. Cummins RO and Graves JR. "The Chain of Survival in Europe: EMS systems compared to USA Systems. in Skinner DA (ed): Textbook of Emegerncy Medicine. Churchill-Livingstone; Cambridge; 1995

27. Cummins RO and Chamberlain DA. "The Internationalization of Emergency Cardiac Care Guidelines" in Paradis N, Nowak R et al (eds). Sudden Cardiac Arrest. Philadelphia; Williams and Wilkins; 1995

28. Cummins RO, Field J. "Acute Coronary Syndromes" in *Textbook of ACLS*. Dallas; American Heart Association; 1997

29. Cummins RO, Hazinski MF. Public Access to Defibrillation: Response to Emergencies at Athletic Events--Economic, Training, and Cost Implications. In Estes NAM, Salem DN, Wang PJ (eds). *Sudden Cardiac Death in the Athlete. Armonk, NY: Futura Publishing Co., Inc.; 1998; 189-204*

Book reviews:

1. Cummins RO. Review of Emergency Medicine: Concepts and Clinical Practice by Peter Rosen et al, 1983. In JAMA 1983;250:3233.

2. Cummins RO. Review of Current Emergency Diagnosis and Treatment, by John Mills, Donald Trunkey, Mary Ho, 1983. In JAMA 1984;252:2408.

3. Cummins RO. Review of Current Emergency Procedures, by James R. Roberts and Jerris Hedges, 1984. In JAMA 1985;254:2477.

4. Cummins RO. Review of Flint's Emergency Treatment and Management, edited by Harvey D. Cain, 1985. In JAMA 1986;255:1943-1944.

5 Cummins RO. Review of Principles and Practice of Emergency Medicine, edited by George R. Schwartz et al, 2nd ed, 1986. In JAMA 1987;257:2096.

6. Cummins RO. Review of Emergency Medicine: Concepts and Clinical Practice (2nd edition), by Peter Rosen et al, 1987. In JAMA 1988;259:2321

7. Cummins RO. Review of An Introduction to Clinical Emergency Medicine, edited by Mahadevan SV, Garmel GM et al, 2005. In Annals of Int Med 2006; (in press).

Published Abstracts of Scientific Work:

These number more than 50. Available upon need and request. Most eventually appeared as publications in peer-reviewed journals and are accessible through the published article.

Trial Testimony as Expert Witness: 2003-06

by

Richard O. Cummins, MD, MPH, MSc

Case (representing) [issue]	Court	Testimony Date (trial verdict)
Culp CJ vs. Providence Alaska Hospital et al. and Zoll Medical Manufacturing (plaintiff) [medical device malfunction]	State Court, Anchorage, Alaska	Feb 2003 (plaintiff verdict)
Martin JJ v. Interlake Medical Center and Yan JJ (plaintiff) [Failure to diagnose AMI]	King County, Washington Superior Court No. 01-2-36018-3 Seattle, Washington	June 2003 (plaintiff verdict)
Rao SC vs. Distad BD, Miller JJ, Overlake Medical Center et al (plaintiff) [Failure to diagnose spinal canal hematoma]	King County, Washington Superior Court No. 02-2-09194-2 Seattle, Washington	Nov 2003 (defense verdict)
Schliep KM v. Seaman ME, [illegible], Providence Yakima, Yakima Emergency Physicians (defense) [Failure to diagnose pseudotumour cerebri]	Yakima County, Washington Superior Court No. 01-2-03386-6 Yakima, Washington	Dec 2003 (defense verdict)
Kennedy E v. Paschall PF, Ley CE, Kootenai Medical Center et al (plaintiff) [Failure to diagnose dislocated hip]	Kootenai County, Idaho First Judicial District: No. CV-02-5999. Coeur d'Alene, Idaho	Jan, 2004 (defense verdict)
Blincoe MW vs. Perina D et al (plaintiff) [Failure to diagnose DKA]	Circuit Court of the City of Charlottesville, in and for the State of Virginia. No. 02-229	Feb, 2004 (defense verdict)
Park, Kelly v. Northwest Hospital and Gabrielle Coulon, MD (plaintiff) [Failure to diagnose avascular leg)	King County, Washington Superior Court. No. 02-208218. Seattle, Washington	June, 2004 (defense verdict)
Wilson BL (for estate of James Codega) vs. Galen Hospital Alaska, Inc (Baumick MD) Alaska Regional Hospital [Failure to treat thoracic aortic dissection]	United States District Court for the District of Alaska in Anchorage. No. A03-107 CIV (RRB)	August–September 2005 (defense verdict)
Cohen, Stuart (deceased) vs. Hilton Hotels Corporation (plaintiff). [Failure to equip & train hotel security staff in 1st aid, CPR and AED use]	Superior Court of California for the County of San Diego, Central District. Case No.: GIC 821664	Feb 28, 2006 (defense verdict)

EXHIBIT C

Richard O. Cummins, MD, MPH, MSc
Specialty board certification in Emergency Medicine and Internal Medicine

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Office Address for Medical Legal Consultation:
1606 39th Avenue
Seattle, WA 98122
(This is a secure drop-off; please do not ask for a receipt signature)

Voice Mail: 206-598-4228
Teleconference number: 206-325-9202
Cellular telephone: 206-890-5935

1. **Retainer:**
   - $550 initial retainer requested
   - This is to establish a relationship and will cover the first two hours of review.

2. **Professional-time compensation rates:**
   - $275/hour for medical record reviews, teleconferences and document preparation.
   - $325/hour for face-to-face meetings, conferences; attorney preparation for depositions and trials;
   - $550/hour for depositions
   - $750/hour for testimony on the stand at trial

3. **Reimbursements for:**
   - out-town air and ground transportation;
   - lodging and meals
   - Note: for travel out-of-town no set fee. Invoice will include only travel expenses, and for the time spent in specific preparation for an individual case. (No fee for "lost work time", etc.)

4. **Tax ID #: 246-68-2373** for Form 1099 reporting.

EXHIBIT D